EGR 120 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Introduction to Engineering

File: EGR120H3

**Homework Assignment #3 – Engineering Societies, ABET, and Engineering Licensing**

**Reading Assignment:**

* Read Chapters 1-2 in Engineering Fundamentals – An Introduction To Engineering, 5E by Moaveni.

**Assignment by last name:**

In most parts below, 5 items are listed (labeled A, B, C, D, and E) that are to be investigated. Each student should only use 1 of the 5 items according to the first letter of the last name, as follows:

|  |  |
| --- | --- |
| First letter of last name | Item to use in each case below |
| A - E | A |
| F - J | B |
| K - O | C |
| P - T | D |
| U - Z | E |

* Create a word-processing document containing the statements and answers to each part of the assignment. See the example below.

Student Name

Course and section

Assignment Number

***Answer #1***) The 7 choices of FE exams are:

***Answer #2)*** The following FE Exam Specifications are attached to my homework: \_\_\_\_\_\_\_\_\_\_

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***Answer #20)*** …

**Submitting the assignment:** Submit the following items:

1. (80 points – 4 pts per part) The word processing document described above
2. (20 points) The 2 attachments (FE specs and PE specs) described in the assignment
* If you submit the assignment during class, staple the two required attachments to the word-processing document.
* If you submit the assignment via Blackboard, submit 3 documents (the word-processing document and the two attachments).

1. **National Council of Examiners for Engineering and Surveying (NCEES)**

* Go to the web site for the National Council of Examiners for Engineering and Surveying (NCEES): [www.ncees.org](http://www.ncees.org)
* Browse the web site to find the following information

 **FE Exam Specifications**

* List the 7 choices of FE exams (FE Exam Specifications):

***Answer #1***) The 7 choices of FE exams are:

* Select one of the 7 FE Exam Specifications (the one that most interests you) to save or print and submit with your homework.

***Answer #2***) The following FE Exam Specifications are attached to my homework: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* For the **Civil Engineering FE Exam Specifications**, how many questions are on the topic of (assigned part only)?

A) Mathematics B) Statics C) Mechanics of Materials D) Dynamics E) Fluid Mechanics

***Answer #3***) \_\_\_\_\_ questions on the Civil Engineering FE exam are on the topic of \_\_\_\_\_ (assigned part).

* For the **Mechanical Engineering FE Exam Specifications**, how many questions are on the topic of (assigned part only)?

A) Thermodynamics B) Heat Transfer C) Engineering Economics

D) Fluid Mechanics E) Statics

***Answer #4***) \_\_\_\_\_ questions on the Mechanical Engineering FE exam are on the topic of \_\_\_\_\_ (assigned part).

* Download a copy of the **FE-Supplied Reference Handbook** (Submit your email address and a password will be mailed to you for the download). The FE Handbook is also available on the course Bb site in case you can’t download it.
* Look in the table of contents for the assigned section below. What is the first topic listed in the following section of the FE-Supplied Reference Handbook (assigned part only)?

A) Mathematics B) Statics C) Environmental Engineering

D) Chemistry E) Electrical & Computer Engineering

***Answer #5***) The first topic listed in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (assigned section name) section of the FE-Supplied Reference Handbook is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Look in the FE-Supplied Reference Handbook to locate the page number for the following items:

***Answer #6***) The periodic table of the elements is located on page \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

***Answer #7***) A table of trigonometric identities is located on page \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

***Answer #8***) A table of derivatives and integrals is located on page \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Determine the passing rates for the most recent FE Exam for the ***area of your choice*** (civil, mechanical, etc).

***Answer #9***) The passing rate for the FE Exam in \_\_\_\_\_\_\_\_\_\_ (list the discipline) was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 **PE Exam Specifications**

* Follow appropriate links on the NCEES web site to find information **on Principles and Practices (PE) Exam Specifications.**
* Select one of the PE Exam Specifications (the one that most interests you) to save or print and submit with your homework.
* ***Answer #10***) The following PE Exam Specifications are attached to my homework: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Open the PE Specifications for the indicated area of ***civil engineering***. What is the first topic listed in the ***breadth*** section? What is the first topic listed in the ***depth*** section?

A) Construction B) Geotechnical C) Structural

D) Transportation E) Water Resources and Environmental

***Answer #11***) For the Civil Engineering - \_\_\_\_\_\_\_\_\_\_\_\_ (list assigned area) PE Exam Specifications, the first topic listed in the ***breadth*** section is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

***Answer #12***) For the Civil Engineering - \_\_\_\_\_\_\_\_\_\_\_\_ (list assigned area) PE Exam Specifications, the first topic listed in the ***depth*** section is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Determine the passing rates for the most recent PE Exam for the area of your choice (civil, mechanical, etc).

***Answer #13***) The passing rate for the PE Exam in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (list the discipline) was \_\_\_\_\_\_\_\_% for first time test takers and \_\_\_\_\_\_\_\_% for repeat test takers.

* List the 4 steps for becoming a licensed professional engineer (PE) on the NCEES web site.

***Answer #14***) The 4 steps to becoming a licensed professional engineer (PE) on the NCEES web site are:

* Some PE exams are only offered in April, some are only offered in October, and some are offered both in April and October. Determine when the PE exam is offered for the following area.

A) Nuclear Engineering B) Software Engineering C) Chemical Engineering

D) Environmental Engineering E) Industrial Engineering

***Answer #15***) The \_\_\_\_\_\_\_\_\_\_\_\_ (list assigned area) PE Exam is offered every \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (April, October, or April and October).

### 2. The Accreditation Board for Engineering and Technology (ABET)

* Go to the website [**www.abet.org**](http://www.tc.cc.va/us/vabeach)and follow the links below:
* Browse the web site to find the following information.
* For the institution listed below (assigned part only), how many engineering programs are ABET-accredited and when is the next ABET General Review?

A) Old Dominion University B) Virginia Military Institute C) University of Virginia

D) George Mason University E) Virginia Polytechnic Institute & State University (Virginia Tech)

***Answer #16***) \_\_\_\_\_\_\_ (college) has \_\_\_\_\_ (how many?) ABET accredited programs. The next ABET General Review is scheduled for \_\_\_\_\_\_\_\_\_\_\_ (list the year(s)).

3. **Professional Organizations**

#  Engineering Journals

* IEEE (The Institute of Electrical and Electronic Engineers) is the largest engineering society. Since the field of electrical engineering is so broad, the society is broken up into about 40 Technical Societies. Each technical society produces journals containing new developments within a very specific area. There are over 100 journals. This can be a very useful resource for engineers.
* Visit the IEEE site at [**www.ieee.org**](http://www.tc.cc.va/us/vabeach)
* Follow the links below:
* **Publications and Standards**
* **Publications**
* **Journals and Magazines**
* List the name of the following **IEEE Transactions, Journals, or Letters** (assigned part only)

A) 1st transactions listed B) 2nd transactions C) 3rd D) 4th E) 5th

***Answer #17***) The \_\_ (1st, 2nd, etc) IEEE Transaction, Journal, or Letter listed is \_\_\_\_\_\_\_\_\_ .

#  Engineering Standards

* Engineering Societies play a lead role in the development of standards. The Internet can be a useful resource for gathering information related to standards in your area of work. Suppose that you were a mechanical engineer and needed information on current standards for chains. The steps below illustrate how to find information related to standards for chains.
* Visit the ASME (American Society of Mechanical Engineers) site at [**www.asme.org**](http://www.tc.cc.va/us/vabeach)
* Follow the links below:
* **Shop ASME - Standards**
* **Search Standards**
* Enter **Chains** for standards related to chains (or enter one of the numbers below)
* List the title corresponding to the following standard number (assigned part only):

A) B29.8 B) B29.22 C) B29.200 D) B29.26 E) B29.10M

***Answer #18***) ASME standard number \_\_\_\_\_\_\_ (assigned number) is entitled \_\_\_\_\_\_\_\_\_ .

 **Engineering Societies**

* Find the website for the ***engineering society of your choice***. Select one in your area of interest.
* Find the following information related to the site that you selected.

***Answer #19***) Name of the organization chosen: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Internet address of the organization: [www](http://www)

 Student membership fee to join the organization: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Mission statement (or another description of the organization): \_\_\_\_\_\_\_\_\_\_\_\_\_

* Find the website for a ***student chapter*** of the engineering society you selected above. Try to find one at the university to which you plan to transfer (if unavailable, find one at another university).

***Answer #20***) University selected: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of the organization chosen: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Internet address of the student organization: [www](http://www)

 Describe some activities that the student organization is involved in:\_\_\_\_\_\_\_\_